PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference	FOR FURTHER ACTION	see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.
2m/2AJ84/5		
International application No.	International filing date *(day/month/year)*	(Earliest) Priority Date *(day/month/year)*
PCT/EP 03/07399	08/07/2003	08/07/2002
Applicant		
KYLIX B.V.		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 18 sheets.

[X] It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

   a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

   [ ] the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

   b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

   [ ] contained in the international application in written form.

   [ ] filed together with the international application in computer readable form.

   [X] furnished subsequently to this Authority in written form.

   [X] furnished subsequently to this Authority in computer readble form.

   [X] the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

   [X] the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. [X] **Certain claims were found unsearchable** (See Box I).

3. [X] **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

   [ ] the text is approved as submitted by the applicant.

   [X] the text has been established by this Authority to read as follows:

   TFC/ BETA-CATENIN REGULATED GENES FOR TREATING CANCER

5. With regard to the **abstract**,

   [X] the text is approved as submitted by the applicant.

   [ ] the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

   [ ] as suggested by the applicant.

   [ ] because the applicant failed to suggest a figure.

   [ ] because this figure better characterizes the invention.

   [X] None of the figures.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP 03/07399

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. [ ] Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. [X] Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

see FURTHER INFORMATION sheet PCT/ISA/210

3. [ ] Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. [ ] As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.

2. [ ] As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. [X] As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

1-4, 6-12, 15, 16, 17, 19, 20, 21-23, 25, 26, 27, 28-38, 40-44, 46-48, 51, 53, (all in part)

4. [ ] No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

[ ] The additional search fees were accompanied by the applicant's protest.

[X] No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.2

Claims Nos.: 1, 2, 4, 6-12, 28-29, 31, 33-35, 51 and 53 (all partially), 5, 32

Present claims 1, 2, 4-12, 28-29, 31-35, 51 and 53 relate to products only defined by reference to a desirable characteristic or property, i.e. inhibitor(s) (compounds) of EphB2/TSPAN-5/RGMR/GPR49/GPX2 protein or mRNA transcripts and composition comprising such inhibitors.
However, in the absence of any indication as to the technical feature relating to the nature of the inhibitor(s), this sole feature is not sufficient for the skilled person to understand without undue burden the actual scope of the said claim (clarity, Article 6, PCT).

Consequently, the search has been carried out for those parts of the claims which appear to be clear, namely those parts relating to the use of antibodies (comprising scFV, Fab etc), antisense oligonucleotides and double stranded RNA molecules respectively, specific for EphB2/TSPAN-5/RGMR/GPR49/GPX2 for treating cancer (page 5, line 3-4, 8-9; page 12, line 8-12; page 13, line 15-17).

Present claims 5 and 32 relate to an extremely large number of possible small compounds. In fact, the claims contain so many variables that a lack of clarity within the meaning of Article 6 PCT arises to such an extent as to render a meaningful search of the claim impossible.

Comment considering subject matter not searched (c.f. non-unity points 25-34):
The Examining Division would like to point out that in-house designations (i.e. IMAGE and Celera IDs) of unknown genes without providing specific sequence information, i.e. amino/nucleic-acid sequence(s) are not able to disclose the subject matter in a way sufficiently to satisfy the requirements of Article 5 and 6, PCT.

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-4, 6-12, 15, 28-31, 33-36, 51, 53 (all partially)

   Use of inhibitors of EPHB2 for the preparation of a therapeutical composition for treating cancer.

2. Claims: 1-4, 6-12, 15, 28-31, 33-36, 51, 53 (all partially)

   Use of inhibitors of EPHB3 for the preparation of a therapeutical composition for treating cancer.

3. Claims: 1-4, 6-12, 21, 27, 28-31, 33-35, 42, 48, 51, 53 (all partially), 21, 27, 42, 48

   Use of inhibitors of TSPAN-5 for the preparation of a therapeutical composition for treating cancer.

4. Claims: 1-4, 6-12, 15, 28-31, 33-36, 51, 53 (all partially), 20, 26, 41, 47

   Use of inhibitors of RGMR = Seq ID No 10 = Celera ID hCG27486 for the preparation of a therapeutical composition for treating cancer.

5. Claims: 1, 2, 4, 6-12, 15, 28, 29, 31, 33-36, 51, 53 (all partially), 16, 22, 37, 43

   Use of inhibitors of CD44 (Fig 17 or 18) for the preparation of a therapeutical composition for treating cancer.

6. Claims: 1, 2, 4, 6-12, 15, 28, 29, 31, 33-36, 51, 53 (all partially)

   Use of inhibitors of KIT for the preparation of a therapeutical composition for treating cancer.

7. Claims: 1, 2, 4, 6-12, 15, 28, 29, 31, 33-36, 51, 53 (all partially), 17, 23, 38, 44

   Use of inhibitors of G-protein coupled receptor 49 (GPR49;

seq ID 49) for the preparation of a therapeutical composition for treating cancer.

8. Claims: 1, 2, 4, 6-12, 15, 28, 29, 31, 33-36, 51, 53 (all partially)

Use of inhibitors of solute carrier family 12 member 2 (SLC12A2) for the preparation of a therapeutical composition for treating cancer.

9. Claims: 1, 2, 4, 6-12, 15, 28, 29, 31, 33-36, 51, 53 (all partially)

Use of inhibitors of solute carrier family 7 member 5 for the preparation of a therapeutical composition for treating cancer.

10. Claims: 1, 2, 4, 6-12, 15, 28, 29, 31, 33-36, 51, 53 (all partially)

Use of inhibitors of claudin 1 for the preparation of a therapeutical composition for treating cancer.

11. Claims: 1, 2, 4, 6-12, 15, 28, 29, 31, 33-36, 51, 53 (all partially)

Use of inhibitors of SSTK serin threonine kinase for the preparation of a therapeutical composition for treating cancer.

12. Claims: 1, 2, 4, 6-12, 15, 28, 29, 31, 33-36, 51, 53 (all partially)

Use of inhibitors of Fyn ocogene for the preparation of a therapeutical composition for treating cancer.

13. Claims: 1, 2, 4, 6-12, 15, 28, 29, 31, 33-36, 51, 53 (all partially), 18, 24, 39, 45

Use of inhibitors of EPBH4 receptor tyrosine kinase (Seq ID 6) for the preparation of a therapeutical composition for treating cancer.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

14. Claims: 1, 2, 4, 6-12, 15, 28, 29, 31, 33-36, 51, 53 (all partially)

Use of inhibitors of ETS2 for the preparation of a therapeutical composition for treating cancer.

15. Claims: 1, 2, 4, 6-12, 15, 28, 29, 31, 33-36, 51, 53 (all partially)

Use of inhibitors of c-Myc for the preparation of a therapeutical composition for treating cancer.

16. Claims: 1, 2, 4, 6-12, 15, 28, 29, 31, 33-36, 51, 53 (all partially)

Use of inhibitors of Myb for the preparation of a therapeutical composition for treating cancer.

17. Claims: 1, 2, 4, 6-12, 15, 28, 29, 31, 33-36, 51, 53 (all partially)

Use of inhibitors of ID3 for the preparation of a therapeutical composition for treating cancer.

18. Claims: 1, 2, 4, 6-12, 15, 28, 29, 31, 33-36, 51, 53 (all partially)

Use of inhibitors of POLE3 for the preparation of a therapeutical composition for treating cancer.

19. Claims: 1, 2, 4, 6-12, 15, 28, 29, 31, 33-36, 51, 53 (all partially)

Use of inhibitors of BMP4 for the preparation of a therapeutical composition for treating cancer.

20. Claims: 1, 2, 4, 6-12, 15, 28, 29, 31, 33-36, 51, 53 (all partially)

Use of inhibitors of Kit-ligand for the preparation of a therapeutical composition for treating cancer.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

21. Claims: 1, 2, 4, 6-12, 15, 28, 29, 31, 33-36, 51, 53 (all partially), 19, 25, 40, 46

Use of inhibitors of GPX2 (Seq ID 8) for the preparation of a therapeutical composition for treating cancer.

22. Claims: 1, 2, 4, 6-12, 15, 28, 29, 31, 33-36, 51, 53 (all partially)

Use of inhibitors of GNG2 for the preparation of a therapeutical composition for treating cancer.

23. Claims: 1, 2, 4, 6-12, 15, 28, 29, 31, 33-36, 51, 53 (all partially)

Use of inhibitors of CDCA7 for the preparation of a therapeutical composition for treating cancer.

24. Claims: 1, 2, 4, 6-12, 15, 28, 29, 31, 33-36, 51, 53 (all partially)

Use of inhibitors of ENC1 for the preparation of a therapeutical composition for treating cancer.

25. Claims: 1, 2, 4, 6-12, 15, 28, 29, 31, 33-36, 51, 53 (all partially)

Use of inhibitors of the gene identified with Celera ID hCG40185 for the preparation of a therapeutical composition for treating cancer.

26. Claims: 1, 2, 4, 6-12, 15, 28, 29, 31, 33-36, 51, 53 (all partially)

Use of inhibitors of the gene identified with Celera ID hCG1645335 for the preparation of a therapeutical composition for treating cancer.

27. Claims: 1, 2, 4, 6-12, 15, 28, 29, 31, 33-36, 51, 53 (all partially)

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Use of inhibitors of the gene represented by IMAGE Clone 1871074 for the preparation of a therapeutical composition for treating cancer.

28. Claims: 1, 2, 4, 6-12, 15, 28, 29, 31, 33-36, 51, 53 (all partially)

Use of inhibitors of the gene represented by IMAGE clone 294873 for the preparation of a therapeutical composition for treating cancer.

29. Claims: 1, 2, 4, 6-12, 15, 28, 29, 31, 33-36, 51, 53 (all partially)

Use of inhibitors of the gene represented by IMAGE Clone 940994 for the preparation of a therapeutical composition for treating cancer.

30. Claims: 1, 2, 4, 6-12, 15, 28, 29, 31, 33-36, 51, 53 (all partially)

Use of inhibitors of the gene identified with Celera ID 39573 for the preparation of a therapeutical composition for treating cancer.

31. Claims: 1, 2, 4, 6-12, 15, 28, 29, 31, 33-36, 51, 53 (all partially)

Use of inhibitors of the gene represented by IMAGE clone 753028 for the preparation of a therapeutical composition for treating cancer.

32. Claims: 1, 2, 4, 6-12, 15, 28, 29, 31, 33-36, 51, 53 (all partially)

Use of inhibitors of the gene identified with Celera ID hCG37727 for the preparation of a therapeutical composition for treating cancer.

33. Claims: 1, 2, 4, 6-12, 15, 28, 29, 31, 33-36, 51, 53 (all partially)

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Use of inhibitors of the gene identified with Celera ID hCG40978 for the preparation of a therapeutical composition for treating cancer.

34. Claims: 1, 2, 4, 6-12, 15, 28, 29, 31, 33-36, 51, 53 (all partially), 20, 26, 41, 47

Use of inhibitors of the gene identified with Celera ID hCG1811066 for the preparation of a therapeutical composition for treating cancer.

35. Claims: 15-27 (all partially), 13, 14, 49, 50, 52, 53

Use of TCF target genes for the diagnosis of cancers in which TCF/beta-catenin signalling is deregulated

36. Claims: 54, 55

Method for the development of therapeutic inhibitor compounds of genes regulated by TCF/beta-catenin in colon cancer